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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,959	12/12/2006	Tamotsu Shikamori	9988.234.00	1673
30827 7590 06/16/2009 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER KO, JASON Y	
			ART UNIT 1792	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/552,959

## Applicant(s)

SHIKAMORI ET AL.

## Examiner

JASON Y. KO

## Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/02)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_
- Paper No(s)/Mail Date 20080402, 20080228

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 9-10, 24, and 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding Claim 1, it is unclear what "condensing water in drying from the tub" means. This language which is part of intended use of the drain valve is considered to be met as described below.
4. Regarding Claim 9, it is unclear what the "pull on the inside of the door" refers to. It is unclear whether this is actually a portion of the filter case, as claimed, or a structural component which is part of the door. It is also unclear what type of and how the pull allows handling the filter case.
5. Regarding Claim 10, it is unclear what "predetermined mesh" refers to.
6. Regarding Claim 24, it is unclear what "each of the drain pipe" means because only one drain pipe is claimed in Claim 1, the independent claim Claim 24 depends on.
7. Regarding Claims 24 and 29, it is unclear whether "bellows for enabling extension and contraction following rotation" is actually supposed to bellows which can extend or contract following rotation, or a different part undergoes extension and contractions. For examination purposes, the first interpretation is employed.

8. Regarding Claim 30, it is unclear what is meant by being "projected forward from the front surface." It is unclear whether the filter case is on the outside or interior of the outer case. In light of the drawings, for examination purposes, the second interpretation will be employed. Also, "the front surface" of line 2 lacks sufficient antecedent basis.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**12. Claims 1-4, 6-9, 21-27, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAKADA (JP 2002-248297).**

13. Regarding Claim 1, NAKADA teaches a drum type washing machine comprising: an outer case (4, Fig. 1); a tub (1, Fig. 1) in the outer case having a drain hole (6a, Fig. 1) at a lowest portion, and an overflow hole (1a, Fig. 1); a driving motor (see [0023]); a filter case (holder 22, Fig. 1); a drain valve mounted to control drainage of water (cross valve function 19, Fig. 1 and [0052]); a drain filter (21, Fig. 1) between a drain inlet (22a, Fig. 1) and a drain outlet (the area between sensor S2 and bypass 8, Fig. 1).

14. NAKADA fails to teach a drum rotatably mounted in a tub, a drain pipe connected between the drain hole in the tub and the filter case, and a drain hose connected to the drain outlet. However, all of these missing parts are well known and obvious and common in washing machines, and it would be obvious to modify NAKADA to include these claim limitations.

15. Having a drum rotatably mounted in a tub is very well known in the washing machine art and would be an obvious way of configuring a drum type washing machine. Regarding the drain pipe, it would be obvious to try and rearrange the parts (pipe) to be connected between a drain hole and a filter case, particularly if the filter was beneath the wash tub, which is a common configuration for washing machines. Furthermore, having a drain hose connected to a drain outlet is very well known and obvious for the purpose of draining fluids.

16. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by NAKADA and having a drum rotatably mounted in a tub, a drain hose connected to the drain outlet, and have a drain pipe connected between the drain hole and the filter case, because all these are common and well known configurations for a washing machine having a filter and drain for draining wash liquids.

17. Regarding Claim 2, it is well known and obvious to form a filter case separately from an outer case of a washing machine, because this allows for easier fixing/removing/replacing of a filter case. Additionally, injection molding of filter cases, such as those made of synthetic resins is well known and obvious. Thus, Claim 2 is considered unpatentable over NAKADA.

18. Regarding Claims 3-4, it would be obvious to one of ordinary skill in the art to mount a filter case on either the middle or a side, because there are limited configurations regarding the position in which a filter case could be mounted, and thus it would be obvious to try and mount the filter case in these positions.

19. Claim 6 is unpatentable over NAKADA because NAKADA teaches to have a lowest point of the drain filter (where S2 is, Fig. 1, but even if the filter was directly beneath the tub as discussed in the rejection of Claim 1) to be positioned at a point higher than a residual water level in a drain path (where the cross valve function 19 is, Fig. 1).

20. Claim 7 is unpatentable over NAKADA because NAKADA teaches the filter case to have a top end positioned near the top of the washing machine, and washing machines are commonly have a height greater than 70 cm.

21. Claim 8 is unpatentable over NAKADA because the filter case as taught by NAKADA is mounted on an inner side/inside of a door, and also the filter case would not be opened, when the door is not opened. See Fig. 1.

22. Claims 9 and 26-27 are unpatentable over NAKADA because it is obvious and well known to affix components (including a filter case) by using a hook and hook holder combination (and the hook would also read on a pull of Claim 9), and one of ordinary skill in the art would have known to mount a filter case using a hook assembly.

23. Claims 21-23 are unpatentable over NAKADA because it is well known and obvious to use elastic members including tension or torsion springs for holding structural components (including filter cases) in place. By mounting using an elastic member, a user may more easily replace the component because the mounted component will be biased towards the user.

24. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by NAKADA and have a filter case mounted using elastic members, to mount the filter case in a well known and obvious way and also to be able to more easily replace or access the filter case (presumes that the filter case of NAKADA is made separate, which requires only ordinary skill).

25. Claim 24 is unpatentable over NAKADA because it would be obvious to have a drain pipe connected (either directly or indirectly) to the drain inlet and similarly to have a drain hose connected (either directly or indirectly) to the drain outlet, and further to include bellows, which are commonly used with filters for allowing water to flow through before the water is discharged. Additionally, bellows are very commonly made of elastic material which can undergo extension and contraction.

26. Claim 25 is unpatentable over NAKADA because the filter case as taught by NAKADA has a residual water outlet in the vicinity of the lowest point thereof (piping where reference numeral 8 is pointing to, and it would be obvious to have a residual water drain plug provided for selective opening/closing, because NAKADA teaches a cross valve function 18 and three-way piping 18, which allows for selective opening and closing for controlling draining.

27. Claim 30 is unpatentable over NAKADA because NAKADA teaches the filter case to be projected forward from the front surface of the outer case (with the front surface being the left side wall of Fig. 1 and the forward being rightward).

28. Claim 31 is unpatentable over NAKADA because it is very well known and obvious to use a drain pump for improved draining of fluid systems.

**29. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over NAKADA (JP 2002-248297) in view of TSUCHIYA et al. (USPN 5,653,870).**

30. NAKADA is relied upon as described above in the rejection of Claim 1.

31. Claim 5 is directed to rotatably mounted filter case which NAKADA fails to teach explicitly.



32. It is well known to have filter cases which are rotatably mounted. For example, TSUCHIYA et al. teaches to have a filter case which is rotatably mounted (see col. 3 lines 48-58), which allows for easier insertion/removal (see abstract). Additionally, it would be obvious for a filter case to have a drain inlet and outlet, for example, an inlet at the top or side of the filter case, and outlet at the bottom of the case.

33. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by NAKADA and have a rotatably mountable filter case (may involve making the integral filter case as a separate part, which requires only ordinary skill in the art), for easy removable as taught by TSUCHIYA et al.

**34. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAKADA (JP 2002-248297) in view of DANIELS (USPN 5,645,732).**

35. NAKADA is relied upon as described above in the rejection of Claim 1.

36. Claims 10-12 are directed to a drain filter having mesh, and a hinged bail, which NAKADA fails to teach explicitly.

37. It is well known in the art of drains and filters to use mesh filters (Claim 10). It is also well known to use a hinged bail for taking out a filter. For example, DANIELS teaches the use of a mesh filter which includes a hinged bail for taking out the filter, See Figs. 5-6.

38. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine having a drain filter as taught by NAKADA and modify the filter to be mesh and to have a hinged bail as taught by DANIELS, to

have a predictable and well known common filter and also for easier handling of the filter.

**39. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAKADA (JP 2002-248297) in view of SURI et al. (USPN 5,702,592).**

40. NAKADA is relied upon as described above in the rejection of Claim 1.

41. Claims 13-18 are directed to filter and filter case detecting means of a washing machine, which NAKADA fails to teach explicitly.

42. It is well known in the art of washing machines to have filter (and other component) detecting means. For example, SURI et al. the use of a filter monitoring device if a filter element is missing in the housing (Regarding Claim 16, see col. 6 lines 36-39). Regarding Claims 17-18, it would be obvious to use different filter detecting means such as optical sensors or microswitches which are well known in the art of monitoring/sensors, especially because SURI et al. teaches the use of distance sensing means of a filter monitoring device using optical sensors (col. 5 lines 62-65) and other contact or non-contact measuring means, which would render a microswitch obvious (see cols. 5-6). Even without the teaching of SURI et al., using a microswitch as a sensor which can be turned on/off would be obvious because it is very well known in the art. Furthermore, regarding Claims 13-15, it would be obvious to detect a filter case rather than a filter, because both methods solve

**43. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAKADA (JP 2002-248297) in view of SURI et al. (USPN 5,702,592), further in view of CHOI (KR 1020010073574A).**

44. NAKADA in view of SURI et al. is relied upon as described above in the rejection of Claim 13.

45. Claims 19-20 are directed to a filter case lock switch assembly which includes a solenoid and a plunger, which NAKADA fails to teach explicitly.

46. However it is well known in the art to use filter case lock switch assemblies having a solenoid and a plunger. For example, CHOI teaches to use a door lock switch assembly comprising a switch case, a solenoid and a plunger. See abstract. It would be obvious to one of ordinary skill in the art to apply such a door switch assembly to a filter case lock assembly, because a filter case may be integrated as part of a door or simply as a different, known, and obvious method to mount and secure the filter case.

47. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by NAKADA in view of SURI et al. and secure the filter case using a lock switch assembly as taught by CHOI, to be able to accomplish the well known and predictable result of mounting the filter case.

**48. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAKADA (JP 2002-248297) in view of KAMANO et al. (USPN 5,042,276).**

49. NAKADA is relied upon as described above in the rejection of Claim 1.

50. Claims 28-29 are directed to a first and second overflow hose, which NAKADA fails to teach explicitly.

51. However, it is well known in the art to use a first and second overflow hose. For example, KAMANO et al. teaches the use of a first overflow hose (17, Fig. 1) connected between a tub side overflow hole (where reference numeral 5 is pointing to Fig. 1) at a

position above the drain hole of the tub and the filter case; and a second overflow hose (drain intermediate hose 18, Fig. 1) for draining. Regarding Claim 29, bellows are commonly used with filters for allowing water to flow through before the water is discharged. Additionally, bellows are very commonly made of elastic material which can undergo extension and contraction.

52. Thus, it would have been obvious to one of ordinary skill in the art to modify the washing machine as taught by NAKADA and have two overflow hoses as taught by KAMANO et al. to use multiple overflow hoses with a filter in the drain pathway for their intended purposes, especially if a filter case is mounted beneath the tub.

### ***Conclusion***

53. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON Y. KO whose telephone number is 571-270-7451. The examiner can normally be reached on Monday-Thursday; 9:30am-7:00pm.

54. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL BARR can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

55. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JYK/

Jason Y. Ko

Patent Examiner, Art Unit 1792

11 June 2009

/Michael Barr/

Supervisory Patent Examiner, Art

Unit 1792